Applicant: Takeshi Nishi, et al

Serial No.: 10/735,885

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## Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

## **Listing of Claims**:

1-10. (Canceled)

11. (Previously Presented). A liquid crystal electro-optical device comprising:

a pair of substrates, at least one of said pair of substrates being transparent;

a light modulating layer interposed between the pair of substrates, said light modulating

layer including a liquid crystal, an optically active substance, and a dichroic dye; and

electrodes for applying an electric field in a direction parallel with the pair of substrates,

wherein a cell thickness d between the pair of substrates is in a range of  $1\mu$ m<d< $10\mu$ m.

12. (Previously Presented). A method of driving a liquid crystal electro-optical device, said liquid crystal electro-optical device comprising:

a pair of substrates, at least one of said pair of substrates being transparent; and

a light modulating layer interposed between the pair of substrates, said light modulating layer including a liquid crystal, an optically active substance, and a dichroic dye, wherein a cell

thickness d between the pair of substrates is in a range of  $1\mu$ m<d $<10\mu$ m,

said method comprising:

applying an electric field in a direction parallel with the pair of substrates.

13. (Previously Presented). A liquid crystal electro-optical device comprising:

a pair of substrates, at least one of said pair of substrates being transparent;

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a light modulating layer interposed between the pair of substrates, said light modulating layer including liquid crystal molecules, an optically active substance, and dichroic dye molecules; and

electrodes for applying an electric field in a direction parallel with the pair of substrates, wherein a cell thickness d between the pair of substrates is in a range of  $1\mu$ m<d< $10\mu$ m, and

wherein the liquid crystal molecules and the dichroic dye molecules are aligned in the direction parallel with the substrates by the electric field to obtain a light transmission state.

- 14. (Currently amended). A display liquid crystal electro-optical device according to claim 13, wherein the dichroic dye molecules are oriented in different directions around the axis that is perpendicular to the substrates to attain a dark state when the electric field is not applied.
- 15. (Previously Presented). A method of driving a liquid crystal electro-optical device, said liquid crystal electro-optical device comprising:

a pair of substrates, at least one of said pair of substrates being transparent; and a light modulating layer interposed between the pair of substrates, said light modulating layer including liquid crystal molecules, an optically active substance, and dichroic dye molecules, wherein a cell thickness d between the pair of substrates is in a range of  $1\mu$ m<d<10 $\mu$ m,

said method comprising:

applying an electric field in a direction parallel with the pair of substrates; wherein the liquid crystal molecules and the dichroic dye molecules are aligned in the direction parallel with the substrates by the electric field to obtain a light transmission state.

16. (Currently amended). A method of driving a liquid crystal electro-optical <u>device</u> display-according to claim 15, wherein said dichroic dye molecules are oriented in different

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directions around the axis that is perpendicular to the substrates to attain a dark state when the electric field is not applied.

17. (Currently amended). A display liquid crystal electro-optical device according to claim 11, wherein the liquid crystal has a spiral pitch p in a range of  $1\mu$ m<p<15 $\mu$ m.

18. (Currently amended). A method of driving a liquid crystal electro-optical device display according to claim 12, wherein the liquid crystal has a spiral pitch p in a range of  $1\mu$ m<p<15 $\mu$ m.

- 19. (Currently amended). A <u>liquid crystal electro-optical</u> device according to claim 13, wherein the liquid crystal molecules have a spiral pitch p in a range of  $1\mu$ m<p<15 $\mu$ m.
- 20. (Currently amended). A method of driving a liquid crystal electro-optical device display according to claim 15, wherein the liquid crystal molecules have a spiral pitch p in a range of  $1\mu$ m<p<15 $\mu$ m.
- 21. (Currently amended). A <u>liquid crystal electro-optical device-display</u> according to claim 11, wherein the liquid crystal has an orientation twist angle  $\theta$  in a range of  $\theta \le 300^{\circ}$ .
- 22. (Currently amended). A method of driving a liquid crystal electro-optical display device according to claim 12, wherein the liquid crystal has an orientation twist angle  $\theta$  in a range of  $\theta \leq 300^{\circ}$ .
- 23. (Currently amended). A <u>liquid crystal electro-optical device display</u>-according to claim 13, wherein the liquid crystal molecules have an orientation twist angle  $\theta$  in a range of  $\theta \leq 300^{\circ}$ .

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24. (Currently amended). A method of driving a liquid crystal electro-optical <u>device</u> display-according to claim 15, wherein the liquid crystal molecules have an orientation twist angle  $\theta$  in a range of  $\theta \leq 300^{\circ}$ .

25. (Currently amended) A liquid crystal electro-optical <u>device-display</u> according to claim 11, wherein the liquid crystal electro-optical device comprises no polarizing plate.

26. (Previously Presented) A method of driving a liquid crystal electro-optical device according to claim 12, wherein the liquid crystal electro-optical device comprises no polarizing plate.

27. (Previously Presented) A liquid crystal electro-optical device according to claim 13, wherein the liquid crystal electro-optical device comprises no polarizing plate.

28. (Previously Presented) A method of driving a liquid crystal electro-optical device according to claim 15, wherein the liquid crystal electro-optical device comprises no polarizing plate.